Monolithic Linear IC



No.2681B

LA4597

2-Channel Power Amp for Radio-Cassette Recorders

Functions
- On-chip thermal shutdown circuit
- On-chip standby switch

Maximum Ratings at Ta=25°C

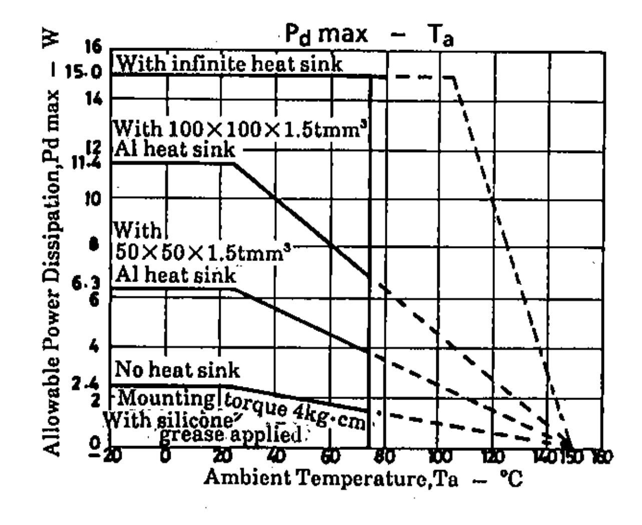
				unit
Maximum Supply Voltage	V_{CC} max		18	V
Allowable Power Dissipation	Pd max	With 100×100×1.5mm³ Al heat sink	11.4	W
Operating Temperature	Topr		−20 to +75	°C
Storage Temperature	Tstg		−40 to +150	°C

Operating Conditions at Ta=25°C

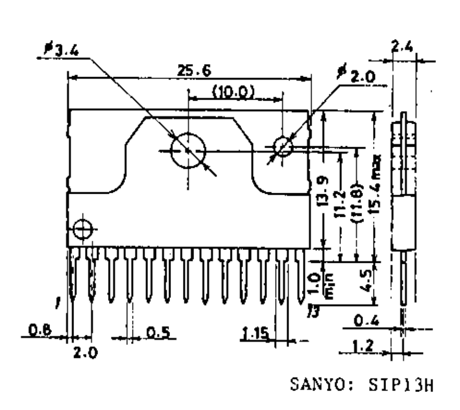
			unit
Recommended Supply Voltage	V_{CC}	9,12	V
Recommended Load Resistance	R_L	3.2	Ω
Operating Voltage Range	V_{CC} op	4.2 to 16.0	V

Operating Characteristics at Ta=25°C, V_{CC}=9V, f=1kHz, Rg=600Ω, R_L=3.2Ω, VG=50dB

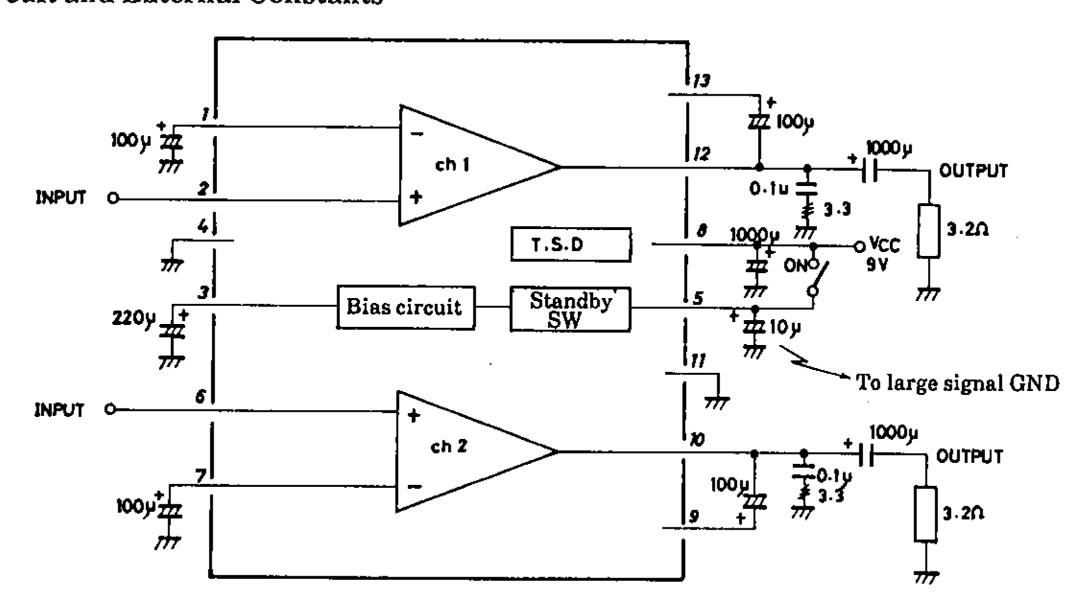
			min	typ	max	unit
Quiescent Current	Icco		10	20	40	mA
Voltage Gain	VG		47	49	51	dB
Output Power (1)	Po1	THD=10%	2.2	2.9		W
Output Power (2)	Po2	THD=10%, V_{CC}=12V		4.6		W
Total Harmonic Distortion	THD	Vo=2V		0.3	1.0	%
Input Resistance	r_i		20	30		kΩ
Output Noise Voltage	V_{NO1}	Rg=0, B.P.F.=20Hz to 20kHz		0.4	1.0	mV
	V_{NO2}	Rg=10kΩ, B.P.F.=20Hz to 20kHz		0.6	2.0	mV
Ripple Rejection	Rr	Rg=0, fr=100Hz, V_{CC}r=150mV	40	50		dB
Channel Separation	CH Sep	Rg=10kΩ, Vo=0dB	45	55		dB
Standby Current	Isd				10	µA



Package Dimensions
(unit: mm)
3107



Test Circuit and External Constants



Unit (resistance: Ω, capacitance: F)

THD – f

V_{CC}=9V
R_L=3.2Ω
Vo=1.0V

Total Harmonic Distortion,THD – %

Frequency,f – Hz

I_{CC}, Pd – Po

R_L=3.2Ω
f=1kHz

Pd at V_{CC}=12V
Pd at V_{CC}=9V
I_{CC}

Pd= V_{CC}, I_{CC} – 2Po

Current Dissipation,I_{CC} – A

Power Dissipation,Pd – W

Output Power,Po – W

f Response

Response – dB

Frequency,f – Hz

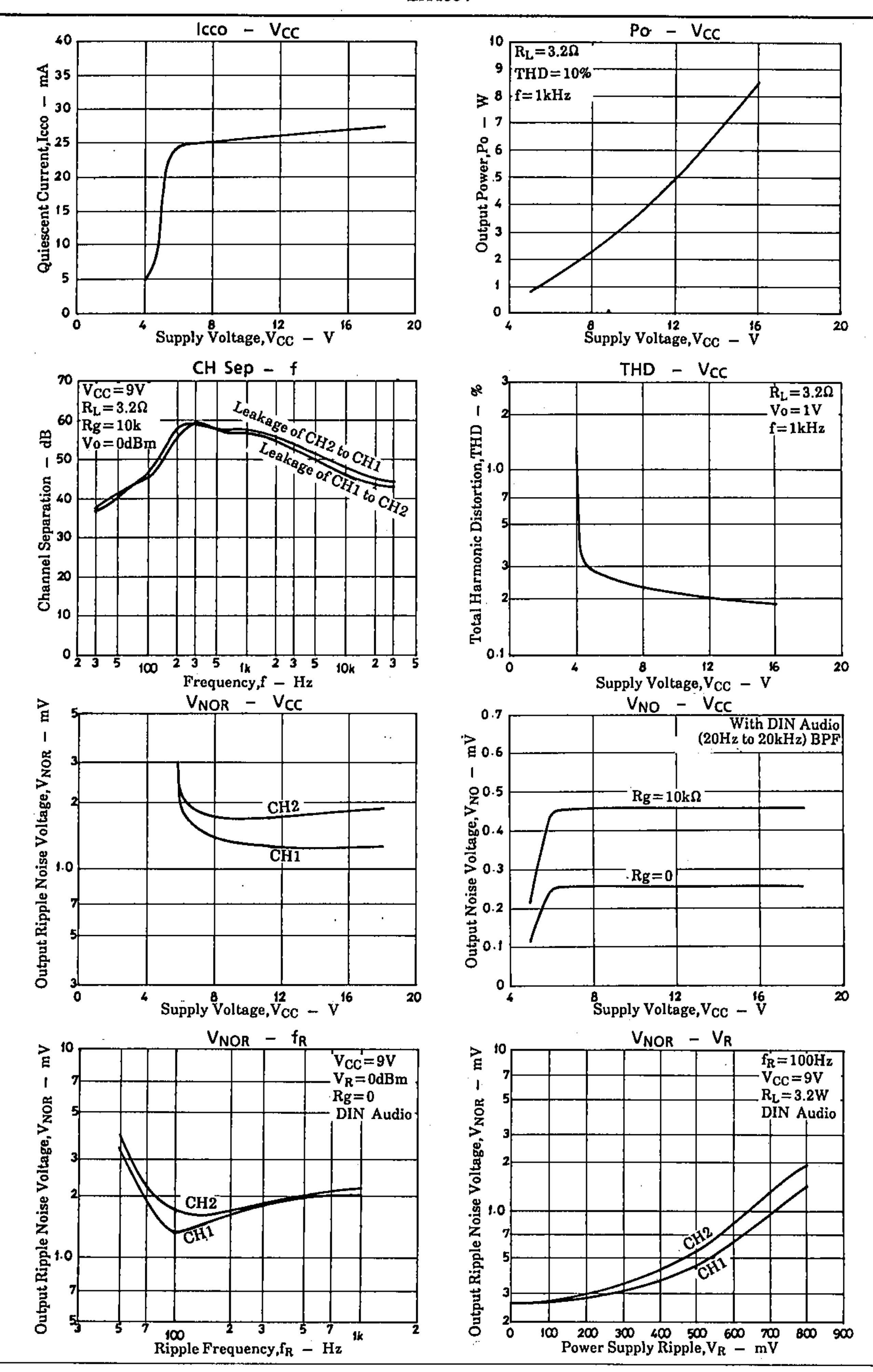
THD – Po

V_{CC}=9V
R_L=3.2Ω

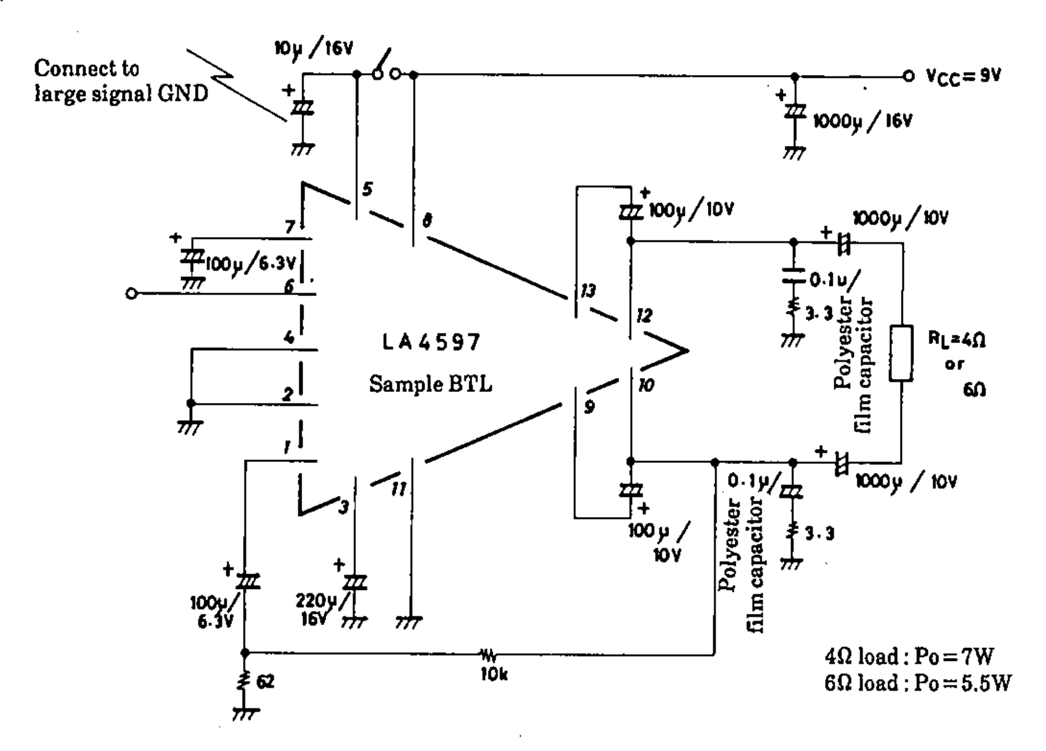
10kHz
100Hz
1kHz

Total Harmonic Distortion,THD – %

Output Power,Po – W


Icco – VCC
Quiescent Current, Icco – mA
Supply Voltage, VCC – V
Po – VCC
RL=3.2Ω
THD=10%
f=1kHz
Output Power, Po – W
Supply Voltage, VCC – V
CH Sep – f
VCC=9V
RL=3.2Ω
Rg=10k
Vo=0dBm
Leakage of CH2 to CH1
Leakage of CH1 to CH2
Channel Separation – dB
Frequency, f – Hz
THD – VCC
RL=3.2Ω
Vo=1V
f=1kHz
Total Harmonic Distortion, THD – %
Supply Voltage, VCC – V
VNOR – VCC
CH2
CH1
Output Ripple Noise Voltage, VNOR – mV
Supply Voltage, VCC – V
VNO – VCC
With DIN Audio
(20Hz to 20kHz) BPF
Rg=10kΩ
Rg=0
Output Noise Voltage, VNO – mV
Supply Voltage, VCC – V
VNOR – fR
VCC=9V
VR=0dBm
Rg=0
DIN Audio
CH2
CH1
Output Ripple Noise Voltage, VNOR – mV
Ripple Frequency, fR – Hz
VNOR – VR
fR=100Hz
VCC=9V
RL=3.2W
DIN Audio
CH2
CH1
Output Ripple Noise Voltage, VNOR – mV
Power Supply Ripple, VR – mV

Sample BTL



Unit (capacitance: F)